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# Outer-sphere interactions between octahedral chiral cobalt(III) complexes and water-soluble calixarenes

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## Abstract

The structures and stability of outer-sphere associates of sulfonate derivatives of thiacalix[4]arene and calix[4]resorcinarene with coordinatively saturated cobalt(iii) bis- and tris-chelates ([Co(L-His)2] +, [Co(en)2ox]+, [Co(en)3] 3+, and [Co(dipy)3]3+) were compared based on the data from UV, CD, 1D 1H NMR, and 2D (2D NOESY) 1H NMR spectroscopy and conductometry. Outer-sphere association is accompanied by partial penetration of the chelate rings of the complexes into the hydrophobic cavity of calixarene, which induces changes in the spectroscopic and spectropolarimetric properties of the cobalt(iii) complexes.

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## Keywords

octahedral cobalt(iii) complexes, outer-sphere association, stability, structure, sulfonate derivatives of thiacalix[4]arene and calix[4]resorcinarene